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MACHINISTS AND BLACKSMITHS JOURNAL

JOHN FEHRENBACH, EDITOR.
CLEVELAND, OHIO.

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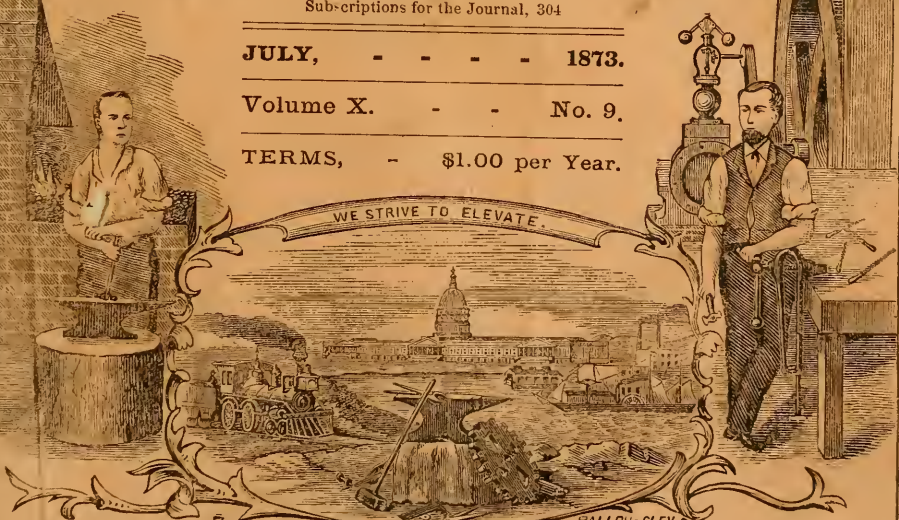
Subscriptions for the Journal, 304

JULY, - - - - 1873.

Volume X. - - - No. 9.

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No. 110 Seneca Street, Cleveland, Ohio.

MONTHLY JOURNAL.

JOHN FEHRENBATCH, EDITOR.

VOL. X.—No. 9.

CLEVELAND, OHIO, JULY, 1873.

\$1 PER YEAR.

Scientific.

THE EVAPORATIVE POWER OF TUBES OR FLUES.

[For the Machinists and Blacksmiths' Journal.]

THE above subject is of the greatest importance in the making or laying out of tubes or flues in steam boilers. It has often been said that a certain amount of tube or flue surface and a given amount of fire-box would produce a given amount of horse-power, and in this the general deductions are in the main correct. But I doubt if any one of the great mass of calculators give the subject its just dues, as for instance we are told by our text books that a certain amount of heating surface in a steam boiler will produce a certain specific amount of work or power, and that heating surface is the co-efficient of the work to be performed and which co-efficient is generally said to be from 9 to 15 or 20 feet of heating surface per horse-power, and the said horse-

power in all cases representing a force of 33,000 pounds lifted one foot high per minute.

So far so good. But did it ever occur to the minds of the ordinary working mechanic that the greatest amount of work of any steam boiler was done in the fire-box, and the first one or two feet of the flues from the same? If not, I will endeavor to show the fact by the experiments of C. Wye Williams and others, who in 1859 made some experiments, showing that the greatest amount of work was done in the fire-box of a boiler, and that the flues or tubes were of very little consequence after a certain length was passed.

C. Wye Williams constructed a boiler for the express purpose of these tests, and in doing so he made his boiler in co-partments dividing it off into five spaces, or making five different parts of a boiler independent of each other in all respects except the fire and heating surface as shown in the following table :

WHOLE LENGTH 4 FEET 6 INCHES.

6 inches.	12 inches.	12 inches.	12 inches.	12 inches.
6 lbs. 700°	2 lbs. 9 oz. 600°	1 lb. 8 oz. 500°	1 lb. 7 oz. 400°	1 lb. 300°
Fire box.	Flues.	Flues.	Flues.	Flues.
Per cent. 48	Per cent. 20 5	Per cent. 12	Per cent. 11 5	Per cent. 8

Thus it will be seen that the first six inches of the fire surface evaporated 6 pounds of water, and the next 12 inches, being double the first space, only evaporated 2 pounds 9 ounces of water, and the next space of 12 inches evaporated only 1 pound 8 ounces, and the next space 1 pound 7 ounces, and the last or fifth space only evaporated just 1 pound of water.

Here we have a fair illustration of the loss of heat by the distance it has to travel, and as I have frequently remarked on this subject, I now re-iterate, that the passage of the heated gases beneath or through the flues of a steam boiler loses its effect in so forcible a manner, that the heat that should have been expected to make steam in the boiler, actually robs the boiler of heat that it has already obtained from its impart with the incandescent fuel applied to the first part of the boiler. It should also be observed that the first space of only 6 inches not only evaporated the most water but it had the greatest temperature, being 700°, or between the melting point of lead and zinc,

and its evaporative power was 48 per cent. of the whole, thus showing that the first six inches of the fuel and heating surface did nearly one-half of the whole work of the whole boiler. Thus it will be seen that about $\frac{1}{11}$ or $\frac{1}{10}$ of the fire surface is worth as much as the rest of the boiler for the purpose of making steam.

The late Mr. Hicks of Bolton, England, found by experiments that the fire-box did ten times the work of the rest of the boiler. Mr. Hicks in his experiments found that with 1000 square feet of heating surface in the flues or tubes was only equal to 100 square feet of fire-box surface, being only ten per cent. of the work done by the tubes or flues, and, therefore, 90 per cent. must be done by the fire-box surface. When we consider that the sum of the sensible and latent heat of steam are always the same at all pressures, then we may easily see how the boiler is robbed of its heat by the heated gases, which, instead of imparting heat to the end of the boiler, actually rob it of its heat previously received from the fire-box, and assuming that at the atmospheric pressure the latent heat to be in round numbers 1000° F. and the sensible heat to be 212° we then have 1212° F. in the boiler, and if we allow the gases to escape into the

chimney at 300° we see at once that that 300° is of a lower temperature than that due to the steam contained in the boiler, and must of necessity rob the boiler of just so much heat until it approximates very nearly the temperature due to steam in the boiler, and therefore create a corresponding loss by reason of the low temperature of the gases.

The proper temperature to allow the gases to escape up the chimney should be about 700°, or between that and the melting point of lead and zinc. A fair test may be made in this way by placing a piece of lead and a piece of zinc, suspended by a wire, in the uptake of a chimney, or in the end of the fire-box, and if the lead melts and the zinc remains then there is about the proper heat escaping into the chimney; but if the zinc melts, as well as the lead, then there is too much heat escaping up the chimney, and if neither the lead nor the zinc melts, then the gases are robbing the boiler of its heat.

By referring to the table (page 274) we find that the first six inches of the fire surface makes 48 per cent. of the whole boiler, or nearly one-half of the entire steam is made by the first six inches. A glance at the temperature will show the first six inches, and we find it to be 700° F., and

following to the next space we find its temperature has decreased 100°. Here, then, we have twice the heating surface and with only 600° F. instead of 700° in the first place. We now proceed to the next space where we find that by going only 12 inches further we have lost another 100°, and we have only 500° in the third space; and so also in the fourth space 100° more of heat are lost; and in the fifth space we lose another 100° F. of heat; thus, in the five spaces, we have lost 400° of heat.

Let us glance at the evaporative power of each of these spaces, and we find that the first space of 6 inches evaporated 6 pounds of water, or 48 per cent. of the whole boiler; the next space evaporated 2 pounds 9 ounces, or 20.5 per cent.; the next space evaporated 1 pound 8 ounces; the next space evaporated 1 pound 7 ounces; and, the fifth and last space evaporated only 1 pound.

The following table will show these results in a better light than can be otherwise obtained:

Pounds of water evaporated.	Space in inches.	Temperature F.	Per cent. of evaporat n.
6 lbs	6 inches.	700°	48.
2 lbs 9 oz	12 "	600°	20.5
1 lb 8 oz	12 "	500°	12.
1 lb 7 oz	12 "	400°	11.5
1 lb	12 "	300°	8.
100			

These figures from actual experiments are of great importance to the engineering world as a

guide in the construction of boilers, and the temperature of the escaping gases. From these results we may infer that the fire seldom ever burns the iron very far from the fire-box, and indeed we may also infer that beyond a certain distance from the fire there is no real danger of burning the tubes or flues, or of getting them red hot even if the water became dangerously low over the flues. Therefore, we may also infer that the greatest danger of burning a boiler is in the fire-box; and here all the mischief is done in the way of burning a boiler. We have many practical and almost daily illustrations of these facts, if we but give it a moment's thought in the steam fire engine with its upright boiler not more than five feet high and with a furnace heated to a very high temperature, and frequently with less than three feet of water in the boiler. In this case we see that there are two feet of steam space, and the blaze can be seen coming out at the top of the chimney, and it would be very natural to suppose that the upper part of the tubes must be red hot from the contact with this intense flame. But the facts of the case do not warrant this supposition in practice, for, as we have already seen, that in passing the first six inches in the

experiments of C. Wye Williams the temperature has been reduced 100° F, and in the whole length of four feet six inches it has lost 400° F. of heat. Thus it may be seen that the greatest danger, as well as the greatest effective heat, is in the fire-box and it is therefore of the utmost importance that the crown sheet should always and at all times have a sufficient quantity of water over it to insure safety and protect the boiler.

J. J. ILLINGWORTH.

MECHANICAL DRAWING.

[For the *Machinists and Blacksmiths' Journal*.]

GEARING.

IN my last article under the above caption, I endeavored to explain the method which is used in the construction of teeth for gearing of the epicycloid and hypocycloid form; I will, therefore take for the subject of this article the involute form and bevel gears.

In practice the chief condition to be observed in the construction of gearing is to diminish the pressure on the axes, which is the chief defect of gearing having the involute form of tooth. They however have several advantages which cannot be obtained effectually by the employment of other forms, one of which is that they

will work equally as well if the distance between the two centers is changed to accommodate various conditions; and any involute gear having the same pitch—similarly described—that is, having the tangent to the base circle passing through the point of contact of the pitch lines will run together.

The pitch and number of teeth having been determined upon, will necessarily determine the pitch diameter of the gear; after this has been described, the number of teeth is then spaced accurately upon it, and afterward the thickness and length of the teeth are determined upon according to the rules given in my last article. The outside line, or diameter of the tooth, is now drawn, as is also the inside line, or diameter, as in fig. 6.

The line bb is drawn passing through the line of contact of the pitch lines at c at an angle of 75° from the center line of the gear, which will give the radius of the base circle, or line of centers HH , touching it at f ; therefore being the common tangent of the base circle. At the junction of these two lines, or one-half of the distance of that portion of the line bb which is inside the pitch line at f , will give the radius for striking the face of the tooth, the distance from f to d or e equaling the radius for that purpose. The

remaining portion of the teeth will be described with the same radius by taking the line HH as the line of centers for that purpose.

In the case of small wheels, by extending the curve below the line of centers, it will be cut away materially at the bottom of the tooth, thereby producing a tooth of weak form. To obviate this difficulty radial lines running to the center of the gear are drawn from the line of centers HH .

The curve may be laid out in the epicycloid form, which gives a curve approaching very nearly the form produced by the employment of the above method. In laying this form of tooth out to obtain an epicycloid curve, the base circle, or line of centers HH , is taken in place of the pitch line for the circle upon which rolls the generating circle of a given diameter, thus producing the curve required by the method explained in a former article.

The pitch line of a gear having an involute tooth is not of much importance except for the purpose of delineating the gear upon the drawing. As I have stated before the pitch lines may or may not run together to suit the various requirements to which they are subjected. There will, of course, be more or less back lash, proportional to the depth at which they are geared or run.

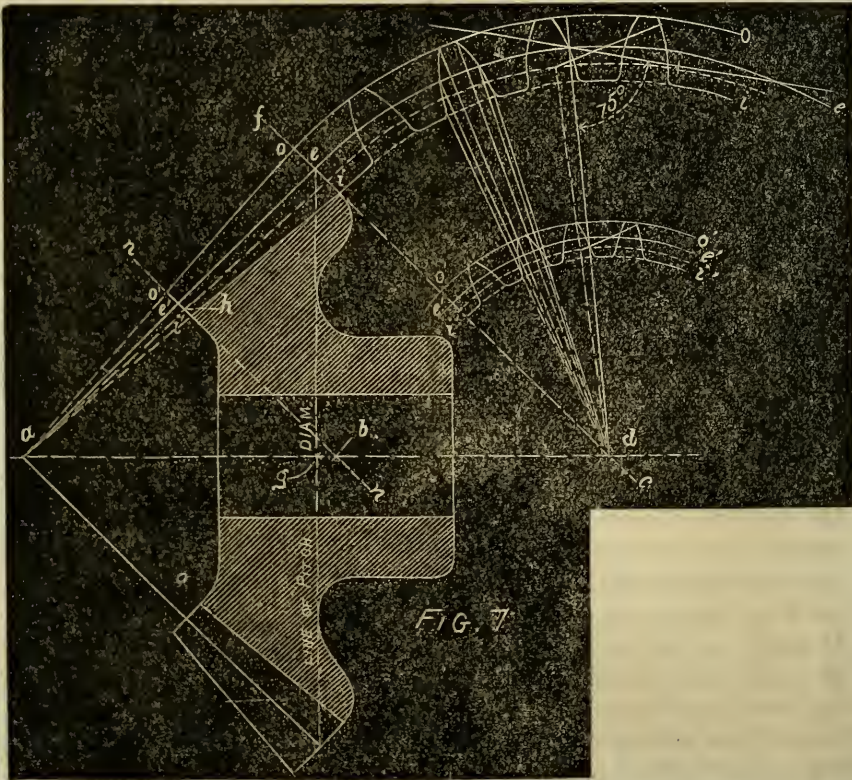
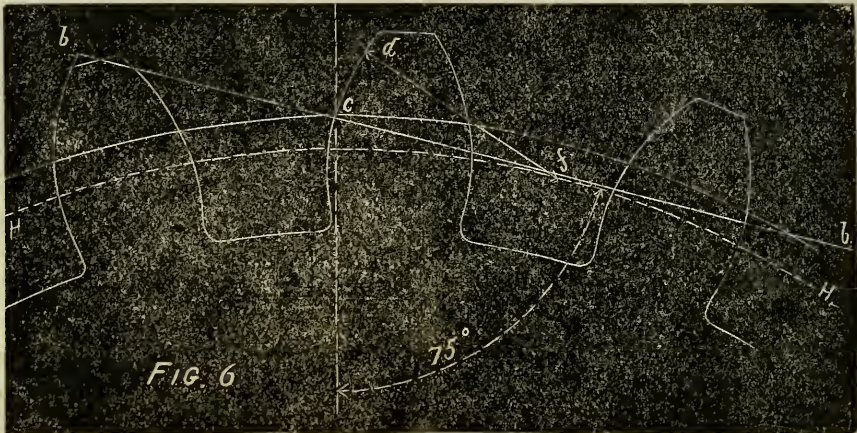


Fig. 7 represents the method of laying the form of tooth out upon a bevel gear.

The first operation is to make a section of the gear showing the length and face of the tooth, with the pitch line extended down to the point *a* upon the center line of the gear. The distance from the line of the pitch diameter to the point *a* will be, on a miter gear, one-half of the pitch diameter, or at an angle of 45° , or proportional to the two diameters of the gears. The line *fc* is now drawn at an angle of 45° from the line *ae*, which represents the point of contact of the two pitch lines when running together.

The foot of the compasses is now placed in the center *d* and the outside circle of the tooth *oo* is struck. The pitch line *ee* is next described, as is also the inside, or the line *ii* at the bottom of the tooth. Having obtained these three diameters, we next proceed to obtain the diameters at the small end of the tooth. The line *nn* being drawn parallel to the line *fc*, and at the point where this line intersects the center line of the gear is placed one foot of the compasses, and obtain the distances to the lines *o'*, *e'* and *i'* respectively, these distances being now transferred to the point *c*, which, in turn, gives us the circles *o'*, *e'* and *i'*.

Knowing the pitch of the tooth, we now require to obtain the number of teeth due to the diameter of the pitch circle *ee*, made with a radius equaling the hypotenuse of the angle *e, d* and *g*. The length of this hypotenuse may be determined by the ordinary rule in mensuration, as "add together the squares of the base and perpendicular, and the square root of the sum is the hypotenuse, or the longest side." The diameter of the gear at the pitch line is $12\frac{3}{4}$ inches, and having 19 teeth of 2-inch pitch, which gives us the length of the base and perpendicular of the angle $6\frac{3}{4}$ inches, or, expressed decimally, 6.469 inches, the length of the hypotenuse will, therefore, be 8.39 inches. I might add that the base of the angle will vary proportional to the two diameters of the gears which run together, but for miter gears the length of the base is one-half of the pitch diameter. Having obtained the radius for the pitch line *ee*, which is 8.39 inches, we now require to know the nearest number of teeth due to a diameter made with a radius of 8.39 inches, which we find is 27. It is now treated in precisely the same manner as a spur-wheel having so many teeth of a given pitch, which in this case equals 2 inches.

The pitch of the tooth, which is

2 inches, is now spaced accurately upon the pitch line ee ; radial lines are now drawn through these points to the center c , which will give the points for the pitch of the tooth upon the pitch line $e'e'$ on the small end of the tooth.

The thickness of the tooth is now set off upon the line ee , and again radial lines are drawn to the center c , which will in turn give the point for the thickness of the tooth at the small end upon the pitch line $e'e'$.

The form of tooth may be selected from the various forms which I have given in this and former articles, which best suits the designer. I have, however, drawn the involute form of tooth in fig. 7, to show its connection with the spur-wheel having this form of tooth, which forms the subject of this article.

After the radius has been found for striking the curve of the tooth, radial lines are drawn running to the center c , which will in turn give the reduced radius for striking the curve of the small end of the tooth of the gear. Having obtained this radius, which has been reduced proportional to the two pitch diameters, it is now required to obtain the line of centers for the small portion of the gear. The line of centers is described on the large portion of the gear, and extended to the line

fc ; from the junction of these two lines a line is now drawn to the point where the center lines of the two gears intersect with each other at a . One foot of the compasses is now placed in the point b , and the other foot extended until the point is reached where the line running to the center a intersects or crosses the line nn at h . The compasses are now transferred to the center c , and the distance described, which will in turn give the line of centers on a reduced scale for striking the curve of the small end of the tooth of the gear. At the point where this line intersects the radial line, which was drawn to reduce the radius of the curve for the small end of the tooth, will give the exact position for the center of the radius. By taking this radius and striking the curve on each side of the tooth from the line of centers the whole of the teeth of the wheel will thus be delineated.

Provided the reader does not exactly approve of the form of tooth which is herein shown for bevel gears, he can, as I have said before, substitute some other form as best suits the various requirements.

By employing a form having two curves for the tooth, one for the flank and the other for the face, there will necessarily have

to be two lines of centers for the purpose of delineating the teeth, which will in turn have to be reduced for the small end of the tooth. This can be done in the same manner as I have given for this example by running two lines in place of one, to the center *a*, from the points where such lines of centers intersect the line *nn*, respectively. We then obtain the distance from the point *b* to each line respectively, which will thus give the radius for each line of centers upon the small end of the tooth.

I hope I have explained the above subject sufficiently to make it comprehensive to the minds of our readers, which will thus enable them to construct machinery of every description accurately.

J. T. H.

The production of iron has doubled within the past sixteen years. In 1856 the total production was 7,000,000 tons; in 1872, 14,000,000 tons. In 1856 the average consumption of iron in the world was about 17 pounds a head; in 1871 it was 30 pounds a head. In 1856 in Great Britain the consumption per head was 144 pounds; in the United States it was 84 pounds. In 1872 the consumption in Great Britain was 200 pounds per head; in the United States 150 pounds per head.

WATER AS FUEL.

"On Monday and Tuesday afternoon," says the San Francisco *Alta*, "a large number of citizens, by invitation, visited the brass foundry on Fremont street, for the purpose of witnessing some experiments with a new fuel recently invented. They were shown into that portion of the establishment occupied by the furnaces, and in one corner found a brick furnace, some eight feet long and six feet high. On the top of this was an iron tank holding about ten gallons, which was filled with crude petroleum. From this tank a pipe about an inch and a half in diameter led into the side of the furnace. A small jet of oil, not larger than a small goose-quill, was permitted to flow out of this tube; a light is placed beneath this jet, and it immediately ignites. Another pipe, about an inch in diameter, leads from a steam boiler stationed not fifteen feet away. This pipe leads a small jet of steam upon the burning oil, and the moment the steam strikes the oil the oxygen in the water is set free and ignites with a tremendous roar, generating in a very few moments a most intense white heat.

A little thing consoles us, because a little thing affects us.

Editorial.

WORKSHOP LECTURES.—NO 1.

INTRODUCTION.

We propose laying before the occupants of our workshops a series of lectures, in the fervent hope of contributing something toward correcting abuses to which both employers and workmen are subjected. We deem it not only a privilege but a duty we owe to our constituents that an effort should be made upon our part to eradicate the evil of a disregard by the workman for the rights of the employer, and *vice versa*, a disregard upon the part of the employer for the rights of the workman.

We hold that every man and woman has natural, as well as legal, rights that should be respected by one person as well as another, no matter what position they may hold. The simple fact of occupying a position of authority does not confer upon one person the power to trample under foot the rights of another. The natural desire on the part of men to arrogate to themselves rights and privileges that do not belong to them, and to trample upon the rights of others, has brought about all the conflicts that have ever occurred between the employer and the employee. These un-

happy altercations have been fraught with untold misery; millions upon millions of dollars have been spent, a vast amount of property has been destroyed, many and many homes have been made desolate, war and bloodshed have been resorted to, to draw a dividing line between the rights of the workman and the employer, and yet the problem of individual rights is far from being settled. Our mission shall, therefore, be to point out the rights of the workman in relation to his employer, and *vice versa* the rights of the employer in relation to the workman, and the abuses of these rights by both parties. In the performance of our task we shall endeavor to deal in an impartial manner, acting fairly with all, and asking favors from none. We have for many years been recognized as an advocate of labor's rights and labor's cause, and, although the recipient of many unkindly thrusts from the very men for whom we labored incessantly, we still stand unflinchingly by the sacred principles we have so long and ardently upheld; we yield to no living man in devotion to them. But in the course of our remarks upon the workshop we will be compelled to state some unpleasant truths, and if the cudgels of frank discussions should fall heavily upon the heads

of those occupying positions beside the Anvil, Vise, Lathe, Planer, upon the floor, or in the drafting-room, we do not wish to be looked upon as deviating in loyalty from our mission as a labor reformer. We are not unmindful of the fact that we have undertaken an unpleasant task, but we are determined to do our duty; and while we court the friendship of all, and the enmity of none, we will curry favor at the feet of nobody. Our motto is: "Be just and fear naught." So come what may neither friend nor foe will cause us to swerve from the line of duty we owe to the organization we represent.

We will commence our lecture by introducing the reader to our

APPRENTICESHIP SYSTEM.

Much as been said by the public press about the arbitrary decrees of Trades' Unions in the matter of prohibiting the employment of more than a certain proportion of apprentices to a specified number of journeymen. The press in its imputations has been sweeping and general, including all Trades' Unions and excepting none, merely presenting one side of the question, and seeking to turn public opinion against the Unions on the plea of injustice to those who seek a trade and are prohibited by the rules of the Union. These

arguments look very plausible so long as but one side is presented. But when we take into consideration the right of every man to keep what belongs to him or give it away just as he pleases, we encounter no particular reason why the mechanical knowledge of a man is not as much his property as is the house or lot of which he holds a clear title and for which he has given value received. We cannot see then that the mechanic by refusing to impart his knowledge to whoever his employer may see fit to dictate commits a crime any more than the manufacturer who refuses to lend himself to an enterprise the tendency of which is to decrease the value of his products. The knowledge a man possesses is *his* property, and he, therefore, has a God-given right to keep that knowledge or impart it just as he may deem proper. No man can deny a man's legal right to his own property. If this is conceded then the mechanic has a legal as well as a moral right to the exclusive use of his own property, whether that property be a house, lot or mechanical knowledge, and to *compel* him to dispose of either is not only an injustice but an outrage and a crime.

We do not wish to be understood as being in favor of limiting the number of apprentices by

arbitrary means, or that we favor a limitation solely from selfish or narrow-minded motives. But we favor a limitation in the number of apprentices for the reasons:

1st. That the great aim of the employer, as well as the employee, should be to instruct the apprentice fully in the arts and mysteries and in every branch of the trade at which he is employed, which, without a limitation of some kind, is utterly impossible.

2d. By an overplus of workmen at any trade the wages are reduced in proportion as the overplus is increased, which would be alike injurious to the apprentice and the journeyman.

3d. The mechanical reputation of the American workman which has in a great measure sank below par, and his occupation brought to the level of a mere laborer, was caused by the wholesale slaughtering of his trade by the *avariciousness*, and not the *sympathy*, of employers, for the boy without a trade can be regained only by limitation.

4th. We favor limitation only where the value of the mechanic's labor is reduced, and the chances of the apprentice to acquire a thorough mechanical knowledge are lessened by an overplus of apprentices.

5th. Because through limitation the mechanic is enabled to

obtain a fair living price for his labor, whereby he is enabled to clothe his children respectably and send them to school long enough to acquire an education that will enable them to compete in the race of life with the favored and pampered children of fortune.

Thus far we have written simply in answer to a biased press which has done much to reduce the mechanics of America to a condition of serfdom and slavery. But the press is not alone to blame for the grand army of botch or inferior workmen which infests nearly every mechanical calling in the country. The employers have done much to swell the ranks of this grand army by the nefarious system of keeping the apprentice at but one thing during his apprenticeship, which is done in order to make him more profitable to his employer, regardless of the interest of the boy.

The journeyman mechanic is not free from blame; through his selfishness in withholding knowledge from the apprentice, he has done even more than the employer to increase the number of inferior workmen.

The sooner our mechanics recognize the fact that no man can be elevated in point of intelligence to the detriment of another, the sooner will they assist

materially in building up our dilapidated trades by making good workmen of every man who possesses the ability or capacity necessary who follows these trades for a livelihood. The destructive and suicidal selfishness that prevents their instructing each other in the higher branches of mechanism has been the means of reducing the number of competent workmen until their number in the United States is much smaller, in proportion to the inferior workmen, than in any other country in the world representing the same number of intelligent and enlightened people. If every man at work at our trades was a first-class mechanic, they would be more independent, and, consequently, would receive much better wages and be compelled to work fewer hours than they now are. How important is it then that every man working at our trades should, as far as possible, be made a competent workman? Let us cast aside the old, exploded theory that "Knowledge confined to the few is beneficial to those possessing it." Nothing could be more injurious to a man than for him to possess the wisdom of even Solomon and have the remainder of the human family in ignorance. "Knowledge is power," but only when diffused among the masses of the people. Let us turn the

meeting-rooms of our Unions into school-rooms, and let the more advanced impart their knowledge to the others. Take the poor workman, whose limited mechanical knowledge has placed him at the mercy of the employer, who compels him to work for a price that has a tendency to reduce the wages of good workmen, and lift him out of his dependent condition, extend to him the right hand of fellowship, and then we will receive his co-operation, for without his aid the accomplishment of the objects we have in view is very uncertain.

What is needed most at present is the establishment of a regular apprenticeship system by law. A system that will compel the apprentice to serve an apprenticeship of at least four years, and compel the employer to give the apprentice an opportunity to acquire a thorough mechanical knowledge at every branch of his trade. When this is once accomplished, the American mechanics will no longer be put to blush by a comparison with the mechanics of other countries.

CLEVELAND UNIONS' PIC-NIC.

The largest pic-nic given for many years in Cleveland was that of our organization of this city. Over two thousand people were in attendance.

ERIE TROUBLES.

Discord and contention between employer and employee are nowhere desirable, and no fair-minded man will encourage anything that will create an eruption between men who should always live upon terms of peace and harmony. It seems, however, that some men care but little about the harmony that should exist in the workshop, so long as their own selfish ends are attained. It sometimes becomes necessary for a man who has obtained a situation as foreman, master mechanic or superintendent of a shop, whose mechanical qualifications will not sustain him in his position, to throw upon the shoulders of others responsibility that should properly rest upon his own. It is really interesting to see the many ingenious devices employed by some of these men to cover up their own deficiencies. But the device that supersedes all we have thus far become acquainted with, and which for downright meanness cannot be equaled, has been invented by the superintendent of the Presque Isle Iron Works, in Erie, Pa., a fellow by the name of Frank W. Parish, and whose mechanical qualifications, we are reliably informed, are considerably below par. So to cover up his incapacity to run the shop

in question successfully, he endeavors to throw the responsibility upon the shoulders of the members of the Machinists and Blacksmiths' Union.

It appears it became evident that he could hold his situation but a short time longer—a situation which, we understand, was secured by undermining his predecessor, a man whose mechanical reputation was beyond reproach. So his aim was to grasp at the first opportunity to trump up a pretext. His conniving ingenuity was not long, however, in finding a starting point. A young man, a member of our organization, whom we do not wish to uphold in his actions, for we believe the superintendent did right in discharging him, was selected as his trump card. This young man, we understand, was discharged for spending too much time talking during working hours about things foreign to his work, and for this misdemeanor was very properly discharged. Here the authority of the superintendent should have ended. Not so, however. In a day or two after, the young man returned to the shop to bid his shopmates “good-bye.” While in the shop our brave superintendent came to him and ordered him out. [The gentleman he ordered out, we are informed, weighs but one hundred

and thirty pounds, while the superintendent weighs one hundred and fifty-five pounds.] The young man was in the act of obeying the peremptory command of the superintendent, but our superintendent, not content with the young man's *walking* out of the shop—this sort of locomotion was much too slow for him—laid violent hands on the young man, who turned and told the superintendent not to do that again, whereupon the superintendent so far forgot himself as to hit his opponent. His opponent, not slow to resent the assault and gross insult, let fly with his right, which collided with the superintendent's ugly snoot, and caused the claret to circulate in all directions; quick as lightning his left flew out and landed on the superintendent's optic, causing that to look familiar to the old Chicago associates of the superintendent. At this juncture two "wood butchers" (botch carpenters) sprang to the aid of our fighting superintendent and held the young pugilist while our brave, undaunted superintendent struck him with an iron bar—about three feet in length and an inch in diameter. This was too much, and the first thing our "wood butchers" knew they found themselves sprawling on the floor. The superintendent next found himself in a hole, from

which he sprang, with a revolver in hand, exclaiming "That is the kind of a man I am." This ended the melee. Of course our young pugilist, whose weight was only 130 pounds, could not hold out against two burly "wood butchers," whose combined weight was 300 pounds, and a cowardly, treacherous whelp of 155 pounds, together with his revolver. We do not wish to encourage anything of the kind, but we cannot help admiring the pluck, backed up by only 130 pounds, that stood up against 455 pounds, and kept the advantage, until a base coward drew a revolver on the mere boy. We advise the fellow Parish to hide his head in shame, and emigrate to his favorite haunts in Chicago, where respectable people will not become contaminated by him.

Not satisfied with the flailing he received at the hands of the boy, he commenced wreaking his vengeance on the members of the Union generally, men who had no hand in the trouble alluded to, and who were in no way responsible for the actions of the member who gave the superintendent the trouncing. Every member in the shop was approached with the alternatives, "Leave the shop or the Union." So far, however, not a man could be got to surrender his honor and his manhood at the feet

of the miserable, contemptible, insignificant, pusillanimous creature who wears the epaulets of Superintendent of the Presque Isle Iron Works. He has succeeded, however, in making himself infamously notorious in the eyes of every fair-minded man acquainted with the transactions in connection with the discharge of men merely for exercising their own discretion in the matter of joining the Machinists and Blacksmiths' Union. If Messrs. Stearns & Co. have not found him out in his true character, they will sooner or later, to their disadvantage, learn that their confidence in him has been most shamefully betrayed. We would suggest for their benefit that they, by some means, induce him to relate a chapter or two of his Chicago history. It might possibly convince them that a more suitable and proper person could easily be got to take charge of their shop—a man whose record, at least, would not put respectable men to blush to contemplate it.

In our last we promised to give a biographical sketch of the hero of our narrative. We postpone the matter for our next, believing that the fellow may still have some sense of honor and prevent it by acting the part of a gentleman in withdrawing honorably the obnoxious exactions he seeks to im-

pose upon the men employed at the shop over which he so domineeringly presides.

For the benefit of those who wish to go to Erie seeking employment, we will say that they may find work at the above shop if they are prepared to doff their manhood by going before a magistrate and swearing in the presence of "God that they will leave the Union if they are members," or if they are not members they must swear that they will not connect themselves with the Union, talk about Union affairs in the shop, etc., etc., while in their employ, and in case of a violation of contract that they forfeit all moneys due them. We defy the proprietors of the Presque Isle Iron Works to deny the truth of this statement. These tyrants are making very little headway however. On the 21st ult., eight of the very best men in their employ connected themselves with the Machinists and Blacksmiths' Union, and some fifteen or sixteen more gave their names to become members as soon as the proper arrangements could be made, and this was done in spite of the obnoxious exactions sought to be placed upon them. They are determined to regulate their own private affairs, and want none of the interference of their employers in their business outside of the shop.

Since writing the foregoing, we received word from Erie to the effect that the Superintendent of the Presque Isle Iron Works has become so intolerable and abhorrent as to make it impossible for the men to submit longer to his contemptible meanness without surrendering their manhood and standing disgraced in the eyes of honorable men. Those who had the independence to join the Union were abruptly told that they must leave the shop or the Union. The men choose the honorable alternative and left the shop.

We were a little inclined to throw all the blame upon the shoulders of the miserable whelp who superintends the shop, but since the exhibition of the contemptible meanness of the proprietors, in allowing him to perpetrate his unequaled rascality upon the men under his supervision, we feel confident that Messrs. Stearns, Hill & Co. are as deep in the mud as their hireling puppy is in the mire. We would like to remind Mr. Stearns of his professions toward christianity. We would also like to ask him if his actions toward his employees, when compared with his actions as a christian gentleman, does not place him in the light of a notorious hypocrite. We can hardly believe that he would do anything

inconsistent with the precepts of christianity, but we do say that if the notorious actions of his superintendent receives his endorsement, or are perpetrated with his full knowledge and consent, he can through no device however ingenious keep a scrutinizing and impartial public from placing upon his forehead the vile stamp of hypocrisy. We hope, however, for the sake of the reputation of Mr. Stearns heretofore, that he will yet place himself squarely before the public. But if he is innocent of the charges preferred against him, we would like to have him explain the reasons for allowing the following to be put in force. Would he like to subscribe to its requirements?

APPLICATION FOR EMPLOYMENT.

Stearns, Hill & Co.

I,, make this application for employment in the manufactory of Stearns, Hill & Co., and in all good faith do declare that I am not now a member of, nor will I during any part of the time I may remain in the employ of said Stearns, Hill & Co., become a member of any Machinists and Blacksmiths' Union or any other society or association which assumes to control or regulate the relations existing between employer and workmen in any business whatsoever; and that I will not countenance or assist in any combination of workmen having in view any interference whatsoever with the business of said Stearns Hill & Co., and I hereby agree with said Stearns Hill & Co. that in case I have made any misstatements in this application, or in case I shall violate any of the condition of the agreement herein contained, I shall forfeit to said firm of Stearns, Hill & Co. any

and all pay that may be due me at the time of the discovery by them of such misstatement or violation of agreement.

Witness my hand and seal at Erie, Pa., this day of 187...

.....[L. S.]

Erie County, ss:

Personally comes the above named, who, being duly sworn, deposes and says that all statements made by him in the foregoing applications are true.

Sworn and subscribed before me this day of .. A. D 187....

The above for downright tyranny and meanness beats anything we have ever seen in the shape of an act of proscription. The man who would sign such an infamous document is either a low, degraded wretch, or a base, unprincipled coward. No man with a spark of honor about him could be induced to lower himself to the menial level to which the Presque Isle Iron Works tyrants are seeking to drag men.

The proprietors of the above shops tampered with the manhood and honor of their employees until Friday morning, June 27th, when the shops were declared on "strike." The shops are now at a stand-still, and we propose to keep them so until the proprietors can give us some assurance that they will never interfere with the liberty and freedom of the men to do as they please in reference to joining the Machinists and Blacksmiths' Union; that they will not again proscribe men

for exercising their rights as American citizens. This is all we ask, and we are determined to contend for our rights until they are fully conceded, if it takes ten years, and then we will not surrender our manhood and our independence.

Machinists and blacksmiths throughout the continent are warned to keep away from Erie, until the difficulty is over. The controversy is between the members of our organization and the proprietors of the Presque Isle Iron Works, and we want no interference of outside parties. We are determined in this struggle for our rights and all we ask is a clear field and no favors.

Any of the honorable employers of Erie needing men, can be supplied, free of charge, at any time by applying to this office or to the officers of the Union at Erie.

Extraordinary Inducements to Canvassers.

One hundred fine gold M. & B. Badges will be given as prizes to canvassers for the JOURNAL. A handsome \$4 fine gold badge will be given for every fifteen yearly paid up subscribers. An extra fine gold badge, with cross-bar and pin attached, worth \$5, will be given for every twenty paid up yearly subscribers. Every member of the organization has now an opportunity to secure one of these handsome emblems of our order with little or no cost to himself. Every person sending in lists of from fifteen to twenty paid up yearly subscribers, in lists of not less than five, will be entitled to a gold badge. Every list must state the prize desired.

PASSING EVENTS, NEWS, ETC.

New Unions.

The following new Unions were organized since last reported: No. 15 of O., Sandusky, by Deputy Pres. John T. Gilbert, assisted by Rec. Sec., John Harper, both of No. 10 of O.; No. 10 of Pa., Philadelphia, by Deputy Pres. J. Levis Worrall; No. 14 of Pa., Philadelphia, (German,) by Deputy Pres. Carl C. Wahl, of No. 7 of Pa. Bro. Frank H. Brown, of No. 1 of Mo., writes for information and instruction for organizing Rutland, Vt., where he is now located, and we will undoubtedly have a new Union there before long.

Industrial Congress.

The following delegates from Machinists and Blacksmiths' Unions will be present at the session of the Industrial Congress to be held in this city, July 15th: From the I. U., John Fehrenbatch, Edward McDevitt, and Richard Birkholtz; from subordinate Unions, Geo. M. Flack, No. 3 of Pa.; Thomas C. Skinner, No. 3 of O.; E. W. Towner, No. 2 of O.; Henry Dorn, No. 8 of O.; Albert Schiffing, No. 10 of Ind.; Thomas P. Smyth, No. 8 of Pa.; Wm. S. Ermold, No. 11 of Pa.; George O. McDonald, No. 5 of O.; H. S. Salisbury, No. 10 of O.; B. J. Abbott, No. 8 of Ill.; H. G. M. S. Smith, No. 12 of O.; Edward Sniggs, No. 5 of N. Y.; P. McMannus, Milwaukee, Wis. The above include only those reported up to June 30th. Quite a number of Unions not reported will be represented.

Personal.

Bro. J. J. Tobin, formerly Cor. Sec. of No. 3 of Ohio, has removed to Cornwall, Ont., and started a shop of his own. His many friends will be glad to learn that he is meeting with the success he deserves.

Bro. John Booth, late Cor. Sec. of No. 12 of Ill., having resigned his office and taken his departure for Scotland, the members desire to express their regret and sorrow at losing the services and assistance of one who has ever been a hard worker, staunch Union man, and consistent advocate of our cause. Bro. Booth has done much toward establishing the good Union feeling now prevailing in Urbana, and we are sorry to lose him.

No. 13 of Mo. would be pleased to hear from Bro. T. W. A. Leighton.

Wanted a Name.

We have for the past three or four days been considerably puzzled to find a name for a man who has been honored by his Union as delegate to the I. U. Convention, and who upon his return when making a report of his stewardship said, "I will never leave the Union." We have thought something of calling him a "renegade," and a "liar," but, according to the great American lexicographer, the terms are altogether too mild. The individual to whom we refer is Wm. T. Bellemer, of Reading, Pa., who has disgraced himself by allowing himself to be suspended for non-payment of dues. Disgraced for fifty cents per month! William, ain't you ashamed of yourself?

Notice to Inventors.

Inventors and Patent Solicitors are notified of a change in the rulings of the Patent Office in reference to caveats. The filing of a caveat and the payment of ten dollars fee, entitles the inventor to notice by the office if within a year any other inventor files a conflicting application. The new ruling of the office is that if a caveat is not renewed at the expiration of the year, the invention is open to the public. This will probably take inventors by surprise, but they can, by prompt action in making annual renewals of caveats, protect their secrets from being divulged.

A Literary Pusillanimous.

We have received the usual number of interesting letters from the "Wife of an Engineer," bound in a neat "yaller kiver," and labeled "The Engineers' Journal for July." Aside from the usually interesting letters, we have something new this month, consisting of a labored tirade against the Industrial Congress, written by a man whose name is not Wilson, although it appears over that signature. This we infer for the reason that the brainless "galoot" who assumes the management of the "concern" is incapable of composing a single grammatical sentence. Wilson, you are an unmitigated ass.

Constant Subscriber,

of Philadelphia is informed that we pay no attention to anonymous communications; if he will send his name, his letter will be attended to. Furthermore, if "Constant Subscriber" is a constant reader, he will find the information desired in an article from Mr. Illingworth in the April JOURNAL, 1872. If he will send his name and address we will send him a copy.

Miscellaneous.**A GOOD UNION MAN.**

[For the Machinists and Blacksmiths' Journal.]

You may travel around, no matter how far,
Machinist or Blacksmith, which ever you are,
And no matter where, you will find what I say,
If not now, and believe it! at no distant day,
We must be "united," and help all we can,
And each in the ranks be "a good Union man."

Though many we meet who are selfish and cold,
Whose mauhood, as well as their labor, is sold,
Who willingly toil on from morning till night,
Can they in their "serfdom" think Union not right?

Between "labor" and "wealth" it can shorten
the span
And better the lot of "each good Union man."

Then swell the broad ranks, and no longer delay,
Let the Union soon herald its army array,
From the mountains and plain, from the valleys
and height,

Till its armies shall be like the stars of the night;
And the bravest of them that shall be in the van
To the last in the march is "a good Union man."

For the day will be dawning when "labor" shall
reign

With "wealth," hand in hand, o'er this world's
past domain;

And these monarchs, divided in peace, shall
have met

Ere the last rosy morn, or its sun shall have set;
And the brave sons of toil, of a once darkened
clan,

Shall praise loud the name of "a good Union
man."

Thus brothers "united" the oppressed to defend,
The crown waits for those who endure to the
end;

So let us press onward, and that with our might,
Uprooting the wrong and upholding the right;
With a "card" that is clear 'tis the very best
plan

To show to the world you're a Good Union Man.

WILLIAM B. DUTTON.

*Logansport, June, 1873.***RALLYING SONG.**

[For the Machinists and Blacksmiths' Journal.]

Craftsmen who have suffered long,
Bear up, bide ye, till you're strong;
Then, for battle against the wrong,
Strike for Liberty!

Why should the image of our God
Be oppressed by unjust laws?
Corporations, will ye pause?
Why this tyranny?

Why our shops securely guard,
Windows graced by iron bars,
"No admittance" on our doors!
Is this Liberty?

From early morn till late at night,
Subject to despotic spite;
By sullen looks they would us fright
To do their drudgery.

Two days' work, instead of one,
Is often from the workman wrung;
While capital, upon its throne,
Scorns his misery.

Browbeat, sneered at, trampled down,
Hapless workman, fettered, bound;
Could worse slavery be found
In antiquity?

O! suffering craftsmen, while ye can
Join ye our Unions, make a stand;
Help drive oppression from our land,
O! strive for Liberty!

We'll trust in God, and in his might,
Boldly euter on the fight;
Resist the wrong, and hail the right,
And hope for Liberty!

JOTHAM H. ORR.

*New Haven, May, 1873.***A RAILROAD LYRIC.**

If an engine meet an engine,
"Coming round the curve;"
If they smash track, train and people,
"What do they deserve?"
Not a penny's paid to any,
So far as we observe;
But all acquit the engineer,
When "coming round the curve."

If an engine meet a steamer,
"Coming through the draw;"
If they crush or drown the public,
Need we go to law?
If the engineer was careless—
"Praps he's rather raw—
They don't discharge an honest fellow,
"Coming through the draw."

If a steamer race a steamer,
"Running up to time;"
If they burst the pipe and boiler,
Where's the mighty crime?
Should a jury in fury,
Make them pay one dime,
Or send the officers to prison,
"Running up to time?"

If they maim or kill a body,
Or a body's wife,
Need a body sue a body.
For baggage, limb or life?
If you sue for damages,
For pay for what you lost,
You get a broken neck or leg,
And have to meet the cost.—KURLEY.

The Modoc Chief Annihilated.

The mighty G. C. E. is mad—not insanely so, we hope. And yet we are fearful, for there is no “method in his madness.” It has assumed an ebullient phase—a good sign. It has found its way into a letter—a very bad sign indeed. Our comments on the crawling pusillanimity displayed by ye wonderful and mighty “Grand Cumulative Enigma” in its course towards the Engineers of Division 86 have raised the ire of ye mystic G. C. E., and he has attempted to vindicate his action, not by showing he was right, but by sending us an insulting letter. This is the reason, the argument usually employed by roughs, blackguards, and other reptiles whom the world, for wise reasons, permits to crawl around on two feet instead of four. In his letter the G. C. E. intimates that he was kicked by a jackass, but there is nothing strange in that; it is not the first time that a fool ventured too near the heels of a jackass, and suffered severely for his want of sense. It is next intimated that we were drunk, but admitting that we were, we still fail to see wherein that admission, even were it true, could excuse the action of the G. C. E. As a temperance advocate, we differ from the Enigma in this: we endeavor to inculcate self-denial and sobriety, by example, he by idle precepts. We cannot boast of what we have done in this line, but we take a pardonable pride in certain things we have not done; for instance, we never played euchre for beer or other drinks in the corner saloons and grogeries of Rochester, or any other city. We think we deserve credit for that if for nothing else. The G. C. E. thinks we had better come down a “peg,” so that he can understand us. If it is any consolation to the “Chief” we can inform him that we would feel constrained to come down about one hundred “pegs” if any considerable portion of our readers were as deficient as he is, in mentality and intellectual culture. The “Chief” spells strapped with one p, query with two r’s, and the adverb too with one o. We would like to know what he meant to express by the phrase “to much?” He gives a singular pronoun when it should be plural, he confounds the present with the past tense, substitutes a present participle for a noun, and in fact commits an orthographical, or a rhetorical or

grammatical error in every line of his letter, and yet, strange as it may seem, “he is not happy,” though he is well paid for his accomplishments. The letter is a curiosity in its way. It is now on exhibition at our office—admission one cent. The exhibition will be withdrawn as soon as the proceeds reach ninety cents. The object of the management in raising this fund is to procure an elementary grammar and juvenile spelling book for the Chief. It is hoped that the patronage will be liberal, as the object is both charitable and worthy.

SECOND EDITION.

The Grand Cumulative Enigma has become more enigmatical. His rage increaseth. He is very angry. It is said that anger and passion steal away the sense. This seems to be true in the Chief’s case, though we are inclined to think that anger and passion had an easy task this time. The Chief had not much to lose, *ergo* it was easily taken. The Enigma has had one of our articles republished in the daily papers, in juxtaposition with some verbiage of his own as comments thereon. Every one who read the article and the comments attentively, indulged themselves with a good laugh at the Chief’s expense. Had he written his “misrepresentations” and “principles,” and had them published alone, some one might have been deceived, but inserting them in conjunction with our article, was the best joke of the season. What the G. C. E. tried to do, was to inform the people of Ohio that we are a most dangerous man to have in the Constitutional Convention—a “turbulent spirit.” But we submit that a “turbulent spirit” is better than no spirit at all. The G. C. E. seems to think that we are afraid of public opinion, and that because we can now stick an “Hon.” before our name, were we ass enough to do it, that we must necessarily be ashamed to openly advocate the rights of workingmen, hence he thought he would cover us with confusion by showing the people what a bold, turbulent spirit we are. The Chief may be weighty, but he is not wise. Were we occupying the highest position in the gift of the people of this state, our position on the labor question would, if anything, be more outspoken, more advanced than it is now. The G. C. E. says he will move West, if any of our revolutionary ideas are embodied in the

Constitution of this State. We hope he will go West. He would make a very good Modoc "Chief," if low cunning and stolidity were the only requisites for the position. But there is a better field in which he can display his usefulness—further West. Let him go to the Sandwich Islands. He would be a God-send to some of the poor, starved cannibals. There is substance in his body, if there is none in his head, and the only manner in which he can be of the least use to anybody, that we can now think of, is the voluntary sacrifice of his *corpus* to the tender mercies of his fellow-mortals of the Cannibal Islands—so, by all means, let him go West. His absence will not cause any serious vacuum in the social atmosphere of Ohio. By a considerable amount of energy, we could manage to hold the State together without him, and if he should be so naughty as to leave us altogether, we think we could prevail upon the sun to rise as usual, and perhaps prevent the earth from flying from its orbit, or the stars from falling.—*Coopers' Journal*.

Into Molten Iron.

About one-half our readers, we suppose, will give the following experiment a fair and impartial trial, and for the next week will occupy their time alternately with poulticing their hands and damning science:

The thing has been done over and over again, observed Dr. Carpenter in a recent lecture—that a man has gone and held his naked hand in such a stream of molten iron, and has done it without the least injury; all that is required being to have his hand moist, and if his hand is dry, he has merely to dip it in water, and he may hold his hand for a certain time in that stream of molten iron without receiving any injury whatever. This was exhibited publicly at Ipswich, many years ago. It is one of the miracles of science, so to speak; they are perfectly credible to scientific men, because they know the principle upon which it happens, and that principle is familiar to you all that if you throw a drop of water upon hot iron, the water retains its spherical form, and does not spread upon it and wet it. Vapor is brought to that condition by intense heat, that it forms a sort of film, or atmosphere between the hand and the hot iron, and for a time that atmosphere is not too hot to be perfectly bearable.

A Monster Anvil.

Vulcan himself, with all his smart giants who worked at the God's smithies under *Ætna*, never owned such an anvil as will soon be in use in new rolling mills in Woolwich, England. For a long time past the engineers have been busy at the royal gun factories of the arsenal in constructing this Titanic piece of iron-mongery, and they are now depositing in its place the enormous plate which is to form the bed of the anvil block. This plate weighs of itself one hundred and seven tons and had to be cast of necessity in an open mould. The surface which is to receive an anvil-block lay, therefore, downward, and when, after many weeks, the colossal casting grew cold, it was needful to turn the huge mass completely over. At the appointed time an army of sturdy smiths undertook this task with hydraulic jacks and a combination of the strongest tackle. Before night, they had lifted the monstrous lump of solid metal, twenty-two feet square, and since then they have laid it on its bed upon the rock-like structure of concrete and piles made to receive it.

The anvil block to be mounted on the huge plate is to weigh only a trifle short of two hundred tons, and the steam hammer which will strike on it is made of thirty-five tons of solid metal, the blow at full force being, of course, tremendous. In fact, it is rather doubtful what will happen to Woolwich and vicinity when the mighty piece of mechanism gets to work. That the earth around will shake and the air roll with measured thunder seems probable; for nothing like this stupendous forge has ever been set to work since the bolts of Jove were hammered. Thor's famous weapon was a mere driver of tin-tacks contrasted with it; and indeed, the old Norse God, for all his huge strength would be puzzled to throw this Woolwich tool—which, taking all its metal work together, weighs hard upon five hundred tons.—*Boston Globe*.

There is nothing like providing for emergencies beforehand. It is stated that an old hulk of a steamboat in New England always carries a supply of wooden plugs, with which to close up the holes that frequently appear in her worn-out boilers. Such solicitude for the safety of passengers is indeed comforting.

He "Didn't Like Beans."

Probably no branch of business affords such a field of the ludicrous side of nature, as that of the theatrical profession, and a short anecdote related to us a day or two since by a friend who is connected with the above profession, is too good to be lost, and the fact of its being an actual occurrence, will give it a keener relish:

About one year ago, a troupe was started from Boston to make a short season through the principal towns in the East. In the company was the leader of the orchestra, (Jake Tannerbaum,) a gentleman of fine musical abilities, of decidedly Teutonic extraction, who liked his beer and cheese, but had a mortal horror of our Yankee dish, pork and beans. Among the places they visited was the famous "brick and herring" town of Taunton, where our favorite dish is always to be found on Sunday. The boys in the troupe, aware of Jake's peculiar aversion, resolved to have a little fun at his expense, and accordingly "put up a job" on him. The landlord was let into the secret, the waiter feed, and the fun commenced on Jake's appearance at the breakfast table, where he was politely asked by the waiter,—

"Will you have a few beans for breakfast?"

"No!" was the emphatic reply; "I don't want no peans."

"O," said the waiter. "You *must* eat beans; everybody eats beans here on Sunday."

With a look of extreme disgust, Jake replied, "I tole you I von't eat peans; vat's the madder mit you, are you crazy? Gif me some squeak mit fried perders."

"Very well," said the waiter, "but you will have to wait till it is cooked;" and wait he did for about fifteen minutes, when his temper getting the best of him, he left the table to see the landlord and state his grievances. No sooner was he out of the dining-room than the door was locked and Jake not finding the landlord, was compelled to go without his breakfast. Resolved not to be cheated out of his meal, he put on his hat and went in search of a lager beer saloon, where he could get his favorite bologna and beer, but alas for poor Jake, the Sunday law was in force, and nothing was to be had, so he had to wait till noon to satisfy his appetite, which was

never poor. Well, the dinner bell sounded, and up went our hero, who, as before, was met by our faithful waiter, who again approached him, and smilingly said.—

"Well, Mr. T., will you have a few beans to commence with?"

This was too much, and the answer, not couched in the most amiable tones came forth:

"No, by cheesus, I tole you two dimes, I von't eat peans."

"But you must have a few beans," persisted the waiter.

"Mine Got in himmel, who der—I is going to eat dis dinner, you or me, dat's vat I'm drying to find out."

"Oh, very well," responded the waiter, "if you can't speak civilly, I shall not wait upon you."

Up jumped the irate Teuton to again find the landlord which he did, and related his grievances, but was partially pacified on being told that the waiter should be promptly discharged, and told him to go up stairs and get his dinner, while he in the meantime was going to take a short ride. Back went Jake, only to find that the boys had again locked the door, and he was wild; seizing his hat, he again rushed out to make a more thorough search for something to eat, but with no better result than before. Ashamed to come back too soon, poor Jake waited until near supper time, when he again returned to the hotel, and seating himself in a corner, not a civil word could any one get out of him. Shortly, supper was announced, and Jake was one of the first at the table.

Prompt to his cue, the waiter again went for him, but before he could ask him his order, Jake broke out:

"Yaas, you may pring me some peans; you vas right this morning, ven you say I moost eat peans; *you may pring me some peans!*" and for the first and probably the last time in his life Jake did eat beans; but how the lager and bologna did suffer when the company struck the next town.—*Westfield News Letter.*

William Jeffers, of Philadelphia, general machinist is now building a patent bolt-cutting machine, which cuts with a solid or open die. It is a double heading machine and requires only one man to operate it. The machine will cut from 5,000 to 10,000 bolts per day.

Pic-Nic.

The Montgomery (Ala.) *Advertiser* of May 16th notices the pic-nic of M. & B. U. No. 2 of Ala. as follows:

Yesterday morning opened gloriously and at an early hour the officers and members of the M. & B. Union No. 2 of Ala., with their wives, and daughters, and sweethearts, and friends met at the foot of Commeree street where a handsome train of cars was ready to take them to the Pickett Springs Park. The train consisted of five large passenger coaches and they were all well filled. An immense number of people went out on the 11 a. m. train and by private conveyance during the afternoon. Arrived on the grounds arrangements were made for enjoying the day.

At 9:30 a. m. the match game of base ball between the Modoc Club of the M. & M. Railroad and the club of the Western Railroad commenced. The Modocs opened splendidly and made several scores before the Western Club scored at all. The Western boys rallied, however, and commenced to drive the Modocs and in the end drove them from their Lava Beds and came off victors by a score of 39 to 35. The game was watched with deep interest and each side had hosts of friends and backers and received cheers as good plays were made. The contest lasted two hours.

Next in order was the wheelbarrow turn. For this contest nine were entered. The contestants were blindfolded and their backs turned to the point to which they were to roll the wheelbarrows. At a given signal each man wheeled and struck out according to his own ideas of place and distance. They had to run 100 yards, and inside bounds of 100 feet. One man soon run against a tree, another capsized before making many feet, and all but two placed themselves outside the limits in short order. Mr. Silas Berry won the prize by first crossing the line, about one barrow ahead of Fred Casey.

The most amusing scenes of the day came next, being the bag race. There were seven contestants. Each contestant was placed in a bag, closed at the bottom and at the neck, leaving the head exposed, but the arms useless for the time being. The feet had little room in which to play and the whole performance was something of a hop, skip and jump. In less than ten feet from the

starting point every man was down and would have been hugging his mother earth if his arms had not been practically pinioned. The east downs, with one exception managed to rise, only to fall again. The successful baggist, Mr. Dan Carrughi, who kept up throughout, reached the fifty yard point without accident and twenty-five yards ahead, having accomplished the feat by continuous jumping.

The next in order was a foot race, in which there were eight entries. The distance to run was 100 feet. At the word go they all started and Mr. Fred Casey won the prize by about two feet, Mr. P. F. Smith being close on his heels.

For the jumping match, best two in three, there were three entries. Mr. Fred Casey again was victor, coming out ahead in two successive jumps.

The shooting match excited an immense interest and thirty-nine entered. Mr. Thos. Casey won the prize making sixteen in three shots. Mr. H. Henes was only one behind him.

In addition to the foregoing list of amusements there was skating and dancing at intervals throughout the day. The little ones were not forgotten, and rope jumping, swings, etc., were provided for their entertainment.

The dinner was abundant and those who did not take supplies with them were bountifully and hospitably cared for.

The day by general consent was voted to have been in every sense of the word a complete and joyful success, and we are glad of it. The community at large is indebted far more than words can tell to the men who compose the M. & B. Union, and we are sure all will be glad to know that hereafter every third Thursday in May will be set apart for their annual pic-nic, and unless we are mistaken the numbers present will increase as each year rolls around. The party returned to the city at 7 p. m., not a single unpleasant scene having taken place.

The prizes will be placed on exhibition for a few days at Offutt's book and news depot where the public can call and see them. The thanks of all present yesterday are justly due to Mr. C. W. Reneau, Chief Marshall and Chairman of the Managing Committee and his associate committeemen, B. McAdam and J. D. Callendine.

Industrial Congress.

CINCINNATI, June 21, 1873.

To the Officers and Members of—

GENTLEMEN:—About the first of May the undersigned issued through the press a call for delegates from Trade Unions, Co-operative and Anti-Monopoly Associations, and all other associations of workmen organized for protective purposes, to meet in convention at Cleveland, Ohio, on the 15th of July, 1873.

That you may better understand our object in calling this convention, we address you this circular, with a fervent hope that through it you may be induced to co-operate with us in our efforts to more thoroughly unite the producers of the country in one grand combination, having for its object the securing to labor of those rights and privileges which cannot be secured by Trade Unions, or other labor associations in their individual capacity. We desire it distinctly understood that we have no agrarian ideas; we neither believe or preach the doctrine that capital is robbery. We are not followers of the "Commune," believing such an organization as the "Commune" would be antagonistic to the best interest of labor in this country. The organization contemplated in the call will have for its object, first, to ascertain, beyond a doubt, why the workmen of the country continue in a poverty that is every year becoming more abject; and second, having ascertained the cause(s), prescribe and enforce the remedy. We have no plan of action to dictate; we certainly have our own ideas on the several phases of this great question, and at the proper time and place we will be pleased to lay them before our brother toilers. It is our desire now to simply call your attention to certain undeniable facts, which, while they continue to be facts, will continue to be a disgrace to American freemen.

Our several organizations which have for their only object the elevation of their members, socially, morally, intellectually, and financially, are recognized by law as conspiracies, instead of being protected and fostered by the law. We are each and all of us liable at any time to become occupants of a prison cell, because we dare, by and through association, endeavor to curtail the power of capital. We all know, that while there is plenty of law for such associations of workmen, it is of a kind through which they will never get justice. Before we can occupy that position in society or wield that power, which, as the producers of the country we should wield, we must force from our servants (the law-makers) legal recognition of our right to organize, protection for our funds, and laws that will bear equally on Capital and Labor.

While capital can receive from the government, not only the right to rob the present and future industry of the country, it is, at the same time in many cases, heavily subsidized out of the people's inheritance. While our law-makers are openly bought and sold, labor most stand aloof; and while it bears all the grievous burdens imposed by this corruption, any effort on its part to thwart, or in any manner lessen the effects of the burden, are met by threats of a prison and a law to place us there. Well may it be asked, "Whither are we drifting?"

While the wages of labor is being reduced, on the plea that the supply thereof far exceeds the demand, the country is slowly but surely being overrun by imported Chinamen, brought here in vessels subsidized by the general government; thus making the producers, who pay all taxes, pay for the means of their own degradation.

The vast and wonderful improvement in machinery, which, during the past thirty years, have doubled the capacity of labor to produce, has resulted in no improvement of labor's condition. The same number of hours must be worked to-day that were worked in a day thirty years ago, and while the power of production has doubled, consumption has not kept pace therewith, and, as a consequence, statistics show that, on the average, one-fourth of the labor of the country is idle at all times.

The efforts made in the past to reduce the hours of labor one-fifth, or to eight hours per day, so that labor may have constant employment, have been met by the most bitter and malignant opposition. All, all the benefits of the improvement of machinery go to other than labor, for "while the rich are growing richer, the poor are growing poorer."

The channels of trade, which should be free and unrestricted, are in the hands of huge monopolies; and while the farmers of the West can find no market for their products, thousands in our city have not wherewith to appease their hunger. All monopolies, of whatever kind or character, must be crushed, or labor in the near future will mean slavery. These monopolies can and will be crushed when labor wills it; and that workmen may know and fully appreciate their withering effect, is one of our objects in calling together delegates to form an Industrial Congress.

We know that the reason why there has been no general uprising of labor to put down the causes of its degradation, has been the want of knowledge—the want of statistics which would prove its real condition. While each of us have had reason to know our own condition, or that of our individual trade, we have not known or appreciated the condition of labor generally.

Not so with the manufacturing, commercial, or banking interests. We are taxed that bureaus may be supported to secure them any every information that will enable them to steadily progress, while labor is denied the privilege of knowing how, when, or where it may better its condition; hence we are in favor of the establishment of a Bureau of Labor, to be located at Washington, D. C., to be run exclusively in the interest of labor, that we may at all times have reliable information, which will enable labor to understand wrongs and prescribe the remedy.

There are many other subjects, of grave interest to labor, which need to be generally understood and which require concert of action to make them subservient to its interests. Co-operation has no legal recognition or assistance. To be adopted generally, it needs legislation; this has been denied its friends, simply because there was no visible power at their backs.

Arbitration has lately come into use as a means to settle the disputes between employer and employee. It is generally viewed with distrust, or gone into without a full knowledge of its effects. We all need information on this important subject, so that its principles may be better appreciated, and if it is found to be all that its friends claim for it, bring it into general use, and thus stop the disastrous trade disputes that are inevitable under labor's present condition.

The country is without an apprentice system. American mechanics, instead of being the first in point of excellence, are, on account of the accursed want of system now in vogue in our manufacturing establishments, rapidly becoming a by-word and a reproach. We need good apprentice-laws, based upon the enlightenment of the times, and we hope to see the Industrial Congress labor to that end.

From the views herein given, you can readily decide whether our object is such as to deserve your endorsement, and whether you will join us in our efforts at labor's redemption.

We again call on you to be represented at our initial meeting at Cleveland. If the expenses would be too great to send a delegate, then join with the Unions in your vicinity in sending a delegate. Be represented by all means, for it is true as Holy Writ, that labor alone can, or will, secure labor's redemption.

The Committee have decided on the following basis of representation, it being the same as provided for former efforts at national organization.

National or International Trade Organizations to be entitled to three delegates; State Trade Unions or Assemblies, to two delegates;

and all other protective organizations of labor, to one delegate each.

The Committee have made arrangements by which delegates will be boarded at the Forest City House, a first-class central hotel, at \$1.75 per day. The hotel is located at the corner of Superior street and the Public Square.

The Convention will be called to order at 10 o'clock on the morning of July 15th, in Temperance Hall, a square and a half from the Hotel.

Delegates elect are requested to notify the Secretary of Committee, as soon as possible, of their election, and their intention to be present.

WM. SAFFIN,

Pres. I. M. I. U.

JOHN FEHRENBATCH,

Pres. M. & B. I. U.

M. A. FORAN,

Pres. Cooper's I. U.

JOHN COLLINS,

Sec. Int. Typo. Union.

H. J. WALLS, Sec. of Committee,

Lock Box 1045, Cincinnati, Ohio.

The call for the Congress has been heartily indorsed by the Executive Officers of the following organizations: Grand Lodge K. O. S. C.; National Forge United Sons of Vulcan; Grand Lodge of Plasterers; Grand Lodge Iron and Steel Heaters; Cigar Makers' I. U.; Grand Lodge of Painters; and Miners' Union of Illinois.

Railroads Forty Years Ago.

A writer in the Hartford Courant, in a conversation recently with some of the elder railroad officials of that city, derived some interesting reminiscences of the early days of railroad travel in the United States. We copy a portion of his account of his researches in this direction. The conversation began by a reference to the great advance made in railroad construction and equipment during the last twenty years. Yes, said one, there's been a great improvement since the Hartford & New Haven road was opened. It had then very meagre facilities, the road bed was poor, and only scrap rails which were all the time curling up and running through the floors, the cars were small and the locomotives weak. In fact it didn't take much to block a train in those days. Sometimes an inch of snow on the rails would do it. Henry C. White, one of the first conductors on the road, tells how he and the baggage master used to sit in front of the locomotive, one on each side, and brush the snow from the rails with a broom as the train slowly crawled along. Each had a pail of sand and sprinkled a handful on the rail when neces-

sary. The driving wheels (engines had only one pair then) used to slip round and round, and torment them almost to death.

On one occasion a train got stuck on the Yalesville grade, by one inch of snow, and the wood and water gave out before the locomotive could overcome it. At last they got the neighbors, yoked four pairs of oxen to the train and drew it, passengers, baggage and all into Meriden, with flying colors. In the early days of the road the stage coach drivers used to regard the cars with great contempt. Indeed thirty years ago the passenger trains were three or four hours on the road to New Haven, and the stage coaches went in about the same time. Superintendent Davidson remembers riding with his father in a carriage drawn by two horses in 1840, which had a race with a passenger train near Wallingford, where the turnpike and railroad are parallel for three or four miles, and during all that time the carriage kept even with the train. There were only two trains daily then, both carrying passengers and freight. The old cars were divided into three compartments, opened on one side, and had twenty-four seats. The locomotives had twenty-inch cylinders, and no cabs to protect the engineer and fireman from the weather.

The oldest locomotives were the "Hartford," "Quinnipac," "Charter Oak," "New Haven" and "Meriden," whose combined power would hardly equal one of the splendid machines now in use on the road. The "Regulus," designed by Gen. Supt. Reed, and built in the company's shops in Hartford, one of the newest freight engines, will pull nearly one hundred cars with ease. There is no need to dwell upon contrasts which the splendid road bed and superb equipment of to-day present to the facilities of those early days. Every passenger may do that for himself. Great credit is due Superintendent Reed for his able and efficient management in putting the road in its present first class condition. Six large stone bridges have been built under his immediate supervision, besides the tunnel under Albany avenue and Main street, a beautiful and substantial structure, of which any road might be proud.

A varnish for iron work can be made as follows: Obtain some good clean gas tar, and boil for four or five hours, until it runs as fine as water; then add one quart of turpentine to a gallon of tar, and boil another half hour. Apply hot.

An Indiana lawyer lately defended a man for keeping his saloon open after ten o'clock at night. He made the plea that it was ten o'clock until it was eleven, and won his case.

General Correspondence.

We do not hold ourselves responsible for the opinions of our correspondents.

Correspondents will please send in their manuscripts on or before the 12th of each month, so as to avoid being crowded out.

In order to insure insertion, all letters intended for publication, must be accompanied by the full name of the writer, not necessarily for publication, but as a guarantee of the good faith of the writer.

MATTOON, ILL., May 21, 1873.

JOHN FEHRENBATCH, *Pres. M. & B. I. U.*:

DEAR SIR.—Please state through the columns of your JOURNAL the reason why your organization has not embodied in its constitution such clause as to provide for a separate department entitled Engineers' Department of the I. U. of M. & B. of N. A., composed of only and especially such mechanics as have passed examination properly before your Deputy of each branch of your organization, who is furnished with a list of questions, suitable in the estimation of I. U. to render him eligible to become a member of the aforesaid department.

The aforesaid department to admit none, only such members of each branch of the I. U., who are eligible and have served a regular apprenticeship at the machinists' trade, and in case a member of the aforesaid department should prove unqualified or unworthy of membership in the same, he shall be immediately expelled, but such expulsion shall not conflict with his membership in the I. U. as a mechanic. Thus I have reason to believe that your organization would soon gain the sympathy of the United States Senate and Congress at large, and moreover of the State Legislatures, through the instrumentality and assistance of which, by your intercession, you would be able in time to redeem a branch of industry, a field of employment, that legally and justly belongs to your tradesmen. And it would finally be embodied in the laws of our country, that inspector's instruction shall demand that all steam operations shall be controlled by a member of this branch of industry, who is able to present papers and documents bearing the seal and signature of the executive department of the aforesaid I. U. of M. & B. of N. A.

Thus you would eventually assume the control of the running of all railroad locomotives, as well as of all steamboats, factories, printing presses, etc., or

wherever there is steam used for power. Thus you would elevate the condition of every family connected with your institution as well as the reputation of your organization in the estimation of the public at large, for the reason that less danger would be imposed on the traveling public by such modifications of the laws of our country. It is true, it will throw out of employment at present many practical runners of railroad locomotives, who are incompetent and imperfect on account of no knowledge of the construction of the same, of which they prove great expense to the running of such machines. Their vacancies would only remain a short time until they would be filled by a class of the best mechanics in the country, who understand the construction and running and preserving the machinery to the interest of the owners and the public at large.

It matters not how successful a man has been for ten or more years past in running a passenger locomotive, if he is not in possession of the practical knowledge of steam operations and scientific mechanical ability, he is in a position to endanger the public. Therefore the sooner the public unshoulder the risk the better it will be for our traveling interests. And as you, Mr. Fehrenbatch, represent an incorporated institution of this trade, I beg of you to soon introduce this important subject before the body of your organization, for their careful consideration of adoption, through the columns of your JOURNAL if you please, or such other papers as you edit, of which through the instrumentality as far as my power is concerned as a member of the State Legislature of Illinois, your favor shall be reciprocated. Thus you will benefit the public at large, and the reputation of your institution will become favorably considered in the different State Legislatures for the benefit of the public.

There could be many other benefits mentioned herein that this important step would devise, but I feel that I have already been encroaching on your JOURNAL columns. I will leave it to your honorable discretion and to the intelligence of the members of your organization, and law makers of the public at large. Yours very respectfully.

JENSIE HILDERBRANT,

Member of the Illinois State Legislature.

RENOVO, PA., May, 1872.

MR. EDITOR—I feel pleased to give a satisfactory account of No. 3 of Pa. The brothers here are of a courteous, gentlemanly nature, which I believe is due to the sociability that exists among them, as it tends to impart to each one the good traits of his neighbor, thereby adding to his own. I am not a member of No. 3 of Pa., but must admit I am as much at home here as at No. 13 of Ohio, to which I belong. On my way I called on No. 23 of Pa. I found the brothers all well, each one with the hand of fellowship extended; as I did not want aid I presume they were disappointed because I deprived them of an opportunity to show their willingness to help a travelling member. I also visited No. 6 of Pa., and I was received there with the same kindness as at Meadville; this Union is in a flourishing condition. Bros. Ginter and Yule, though not personally known to them, vied with each other in extending their friendship. I was much surprised to see at Oil City a machinist whose acquaintance I made some time since; at that time he was an anti-union man, being much prejudiced against us. I said but little to him at the time as the subject was distasteful to him. I accosted him, then asked him if he still entertained his non-union principles. His answer was: "Oh! I've joined them at Erie some time since, the President there enlightened me, and I am now a Union man." See what judicious reasoning will accomplish. I would that we had a strong percentage of such reasoners; of such members we cannot have a superfluity, for their services are required in many places throughout the United States. I next visited Titusville, No. 21 of Pa. This Union is progressing favorably. My reception was a repetition of the other Unions, each member desiring to know in what manner he could assist me. I have shown the manner in which the traveling members are treated; I have spoken of the good behaviour, now to the contrary. I feel constrained to remark that I see Union men very lax in their endeavors to forward the advancement of the M. & B. Union by actions that are in themselves very reprehensible; for instance, I saw in one case a helper with a Reporter in his hands attentively perusing its contents, I took it from him, asking him where he obtained

it. "I picked it up; Bill threw it on the bench and went out." Flagrant indifference, as it tends to cause outsiders to think little of an organization whose business is made so little of by a member. There is another case much too common, and I would like to see those who indulge in it relinquish it at once; I refer to those, who when they detect a peculiarity in some member's deportment, immediately make the unfortunate person a target at which they direct all their shafts, not heeding what they are tipped with; outsiders wonder to see Union men treating Union men so; not only that, but a man of a sensitive nature or nervous temperament, will find it a herculean task to command himself and take their low, vulgar jibes stoically. With some men very little of such treatment would make inveterate enemies for the Union to combat. Once driven out they are almost irretrievably lost to us; like branches lopped off a tree seldom if ever placed back, and then only by patient grafting. Unions should beware of putting men in office who show too much enthusiasm for the cause; as a rule they are shallow. I never yet knew, on any undertaking, an enthusiast to prove himself equal to the task; they are invariably behind in action, though well to the fore when speaking of "what they would do" and "how they would do it." Unions will readily perceive that the men we want to man our vessel must be thinking men, and such characters have not the time to throw away boasting. Brothers those men, with our co-operation, will assuredly forward the cause, our cause; the hope and safeguard against oppression, the bulwark of liberty. To our homes, for wives and families too dear to the heart to be neglected, the Union will be a blessing. We shall soon have a fair remuneration for our labor, then good bye to starvation prices; we shall soon have the wherewith to feed, clothe, and, above all, educate our children as befits the children of those whose hands and brains make the country. Every man to his place and brother Fehrenbatch at the helm, then we shall glide along smoothly, forgetting all storms, reveling in fair weather until we ride in harbor with Union for our anchor.

"Then workmen ne'er surrender and work like slaves for them,
We'll make them yet remember, we're honest working men."

Fraternally, JAS. M. LAWLER.

MILWAUKEE, WIS., May, 1873. 1

MR. EDITOR.—I would be very much obliged if you will be so kind as to explain through your able JOURNAL how a parallel motion engine works, as I am going to make a drawing of one if I can. I know one way it will work; when I was in Liverpool, I think, I have seen a beam engine working there without guides, and it was not a trunk engine neither, so it must have been a parallel engine. If you will be so kind as to explain to me through your JOURNAL I shall be very much obliged to you.

I am, yours truly, P. JONES.

ERIE, PA., June 23, 1873.

MR. EDITOR—It becomes my pleasant duty to lay before the readers of the JOURNAL, and our fellow-craftsmen, the satisfaction and pride at present existing in No. 17 of Pa. with the good management and wise plans of the President of the International Union, Mr. John Fehrenbatch, in connection with the "Presque Isle Iron Works." As soon as the matter was laid before Mr. Fehrenbatch he came here at once, made himself thoroughly acquainted with all the facts of the case, and then laid his plans to carry the campaign to a successful issue. Everything that has been done by the advice and assistance of Mr. Fehrenbatch was done in an honorable, straightforward manner, that has won for the Union here the respect and confidence of the public. We have had the pleasure of seeing the President of the I. U. three times during the month, and at the last meeting he addressed eight men from the Presque Isle Iron Works were initiated as members of No. 17, and eighteen or twenty more sent up their names for membership, and the proprietors, whose standing threat is "that any man who connects himself with the M. & B. Union will be discharged," must either close their shop or keep Union men in their employ. We owe our heartfelt thanks to President Fehrenbatch for the fair, impartial, and honorable manner in which he managed this affair that has reflected credit and respect upon the Union in this city, and placed us in a true and favorable light before the entire community. May God keep him steadfast in the path of duty he has marked out and is pursuing, regardless of praise or censure, and grant him a long and happy life to advance and uphold the principles of our Union, to defend and assist our fellow-craftsmen, and that we may have his wise counsel and advice in the hour of trouble, is the earnest prayer of the members of No. 17 of Pa.

Fraternally, etc.,

H. R. ROGERS

Cor. Sec.

MR. JOHN FEHRENBATCH—Dear Sir: As we can get nothing published in our own Journal, you will confer a favor by giving the following a place in your JOURNAL.

Respectfully yours, H. A. JOHNSON.

MOBERLY, Mo., June, 1873.

TO CHAS. WILSON & L. B. GREENE—

Sirs: Not hearing from you since my answer to yours of the 15th and 21st, I would like to know why you do not answer. Why do you not help the members of No. 86 who are in distress? You do not help them to obtain work, nor try to keep them from being thrown out when they do obtain it. Many of them have mortgaged their quiet and peaceful homes to obtain the necessities of life. You say that it is not ungentlemanly or dishonorable for us to propose to the officers to denounce the Brotherhood in order to get work! First, we take a solemn obligation to sustain the Brotherhood, then we must take another to denounce it. In the name of God, must we perjure ourselves twice? I ask the Brotherhood at large, and every lover of the Order, what shall we do? Shall we denounce one of the most noble institutions under the canopy of heaven, in order to obtain work?

Mr. Wilson, why is it you say you work for the interest of the Brotherhood? I ask every Brotherhood man what interests us most? You have never settled a difficulty satisfactorily for the engineers. You never go to the engineers but always to the officers first; as, for instance, in the trouble on the Missouri Pacific, the Louisville and Nashville, the Indianapolis, Bloomington and Western, and the North Missouri Roads. [You might have obtained a situation on the North Missouri Road for your son, as you did on the I., B. & W. Road; I think he would have held it as long as he did the other.] The advice you give us is that it is just as honorable to be a traitor as it is to be loyal. Every time one of us denounces the Brotherhood we weaken the cause and perjure ourselves before God and man. You publish nothing in your Journal only what suits you. You try to make it appear before the public that you are all right and hundreds of us all wrong. I, for one, am tired of supporting such a Journal and such a one-sided Chief. If the Brotherhood has to be conducted as it has been of late I withdraw.

Mr. Wilson, you speak in your Journal of receiving letters with no names attached. I, for one, do not fear to give my name, and have done so every time; but you publish nothing unless it suits you. That is why I take this method of letting others hear from us. I do not ask you to get me work; if I did I would never get it. I ask no favors of you. If there were no railroads I think I could get a living as honorably as you have of late.

When you left St. Louis you said you could not call our trouble "a strike"; in your Journal you say "it was a most disgraceful strike." You said, and promised the committee, that Mr. Van Horne should not keep them out of work. I was not on the North Missouri Road when the demand was made, nor had I anything to say in regard to the trouble; I was on the Mississippi Central at that time. I am not asking for help, but there are men here who are actually in want, and I think the other Divisions should lend them a helping hand, but you do not ask the other Divisions to assist them. Several of the members got work, but have been discharged through Mr. Van Horne's influence. Now, what are those men going to do?

Mr. Wilson, when this comes to your notice I would like to see it in your Journal, with your reply.

H. A. JOHNSON,

A Member of Defunct Division No. 86.

INDIANAPOLIS, May 26., 1873.

At the last regular meeting of No. 4 of Ind. we had the pleasure of a visit from President John Fehrenbatch, who, after the regular order of business, was invited to make a few remarks to the brothers present. Bro. Fehrenbatch briefly reviewed the past history of our organization, up to the present time, giving an idea of what had been accomplished in the past and the progress the cause was now making everywhere, and speaking most encouragingly of our future, if the machinists and blacksmiths will but do their duty. Bro. Fehrenbatch spoke at some length and was listened to attentively by all present who were much interested by the eloquent manner in which the arguments in favor of thorough organization was presented to them. No. 4 desires to return thanks through the JOURNAL for the visit of Pres. Fehrenbatch and wishes him success and prosperity in all his undertakings.

I remain, fraternally,

WM. HALL, Cor. Sec.

NEW YORK CITY, June, 1873.

MR. EDITOR—I am sorry that so many votes were cast against the admission of the Boiler Makers. Every thinking member of the Machinists and Blacksmiths' International Union ought to perceive that the emancipation of labor cannot be realized by him alone; that the solution of this great question is demanding the co-operation of the workingmen of all trades and countries. Our own organization can only be successful in its fight against capital by uniting all metal workers into a strong body with a central executive at their head. I fail to see why so many votes were cast against the admission of our fellow-workers, the boiler makers.

Fraternally, CHAS. PRAITSCHING.

ALTOONA, PA., May, 1873.

MR. EDITOR—Permit me the use of a small space in your valuable JOURNAL, to make known to our fellow-craftsmen throughout the length and breadth of this vast domain, something about the charnel house of Central Pennsylvania, otherwise known as the P. R. R. Co. Machine Shops, which are located in this place, and employing upward of twenty-five hundred mechanics of all branches, not even excepting printers*, (who are supposed to be able to superintend a machine shop.) In the first place wages are very low and not apportioned according to the merits of the men. "Chunkers" and "scabs" in the trade are paid about the same as mechanics; and, as the shop increases in extent, the severity of the rules and regulations governing the same really approach monarchical tyranny, and are not at all characteristic of free America. The shops are all enclosed by high walls and iron pickets, and the entrances thereto are all bolted, or guarded by watchmen, while all day long the shops are patrolled by a great burly policeman, swinging his shillalah. No admittance to the shops during working hours without first obtaining a permit; no retiring from the same without a ticket of leave. No prison rules are more exacting than those in vogue here. Fellow-craftsmen, how does this affect the well-bred and skilled mechanic? Why, sirs, it causes him to consider himself a great criminal, undergoing a sentence of penal servitude. Added to this is a late order compelling the men here employed to pay (out of the small pittance they receive for their labor) for any accidental breakage or damage done to tools while using them to do the company's work; also an order making the employees a proscribed race of beings, not even allowing them the privilege of the streets and sidewalks in and about the general office and depot, which are public thoroughfares, and used by all mankind generally. From present indications, I should not be surprised if the present management would clothe all the employees in canvas suits ere long, so that this proscribed race of human beings, who unfortunately happen to be employees, may be known and pointed out to public gaze by the powers that be, saying "those are our menials and slaves," such is their thirst for tyranny and oppression, such is their desire to let the public know that they run the machine, and will use the iron heel of oppression to any extent that their ambition for notoriety may lead them to, when, at the same time, it is an established fact, beyond contradiction, that this self same proscribed, oppressed and poorly paid body of men are the very means (by their mechanical skill and ability) of keeping them in their positions, whereby they can draw their monthly stipends of \$150 to \$200,

besides a few perquisites, in lieu whereof they would have to come down to hammer, chisel and file, and earn their bread in the sweat of their brows, a task which they are scarcely able to perform. These orders and restrictions, I think, are without a precedent or parallel anywhere within the bounds of civilization, and would be very discreditable to the author, even though the mandates had emanated from Captain Jack of the Modocs. In conclusion, I would say that I hope the official terms of those now in power may be measured by the magnanimity and generosity toward the employees, and may they be succeeded by better and more generous-hearted men. OBSERVER.

*The fellow or fellows who work in that shop and call themselves printers are nothing but "slouches" and "rats" in the typographic profession, and will never amount to much more in any other calling.—PRINTER'S DEVIL.

NEW YORK, May 30, 1873.

MR. EDITOR.—A party wishes to rent steam from me and wants to know how much I will charge for an inch pipe per hour at a pressure of sixty pounds, and they keeping the valve wide open all the time they are using it. Will you or some of your many readers be kind enough and give me a rule for finding the velocity of steam at a given pressure or the amount of steam that will escape through an inch opening, say a piece of pipe one foot long screwed into the top of the boiler will discharge how many cubic feet of steam in a minute or hour?

Respectfully, JOHN HOHMAN

Obituary.

BUFFALO, N. Y., June 13, 1873.

At a regular meeting of M. & B. U. No. 5 of N. Y., the following preamble and resolutions were unanimously adopted:

WHEREAS, It has pleased Almighty God to remove from this world of care the beloved wife of our worthy brother, Fred Venater, and

WHEREAS, It is our duty, as brothers, to sympathize with our bereaved brother and his family, therefore be it

Resolved, That we tender Brother Fred Venater and family our sincere sympathy for the loss they have sustained.

Resolved, That a copy of these resolutions be presented to Bro. Fred Venater and family, and that a copy be sent, for publication, to the M. and B. JOURNAL.

WM. DAGLISH, Com.

SELMA, ALA., June 24., 1873.

At a regular meeting of M. & B. Union No. 3 of Ala. the following preamble and resolutions were adopted:

WHEREAS, It has pleased the Divine Maker and Ruler of Universe, in His infinite wisdom to lay the hand of affliction upon the families of two of our worthy Brothers, Chas. Lardent and Daniel O'Rourke, in calling away their little sons, Alfred Lardent and James O'Rourke, therefore be it

Resolved, That we deem it our duty to express in fitting terms the deep sympathy we feel for our bereaved brothers and their families and friends in this their trying hour of sorrow and affliction for the loss of those dear to them, who though removed from the transitory scenes of life, still live in the hearts and memories of those who love them.

Resolved, That a copy of this resolutions be presented to our brothers and also published in the M. & B. JOURNAL.

JAMES S. DOW, }
T. S. WIDDOWS, } Com.
ADOLPHUS GAY. }

WHISTLER, ALA., June 20., 1873.

The following preamble and resolutions were unanimously adopted by M. & B. Union No. 1 of Ala. at a regular meeting held June 13th.

WHEREAS, It has pleased an Allwise Omnipotent Providence to take from us our Friend and Brother, DANIEL STEWART,

WHEREAS, The solemn duty rests upon us, as brothers under one common band of benevolence, to express the sorrow we feel in the untimely loss of our departed brother, therefore be it

Resolved, That we hereby tender the bereaved widow and orphans our sincere sympathy and condolence for their loss.

Resolved, That as a further token of our respect to the memory of the deceased brother the charter of our Union be draped in mourning for the space of thirty days.

Resolved, That a copy of these resolutions be sent to the family of the deceased and published in the M. & B. JOURNAL.

J. P. CALLAHAN, }
J. O'NEIL, } Com.
JOHN RUSH, }
JOHN COCHRAN, }
ED. O'NEIL, }

CHARLESTOWN, MASS., May 22, 1873.

WHEREAS, It has pleased Providence to remove from this world of care and trouble the beloved wife of Brother KENDALL W. MARSHALL, therefore be it

Resolved, That we tender Brother MARSHALL and family our sincere and heartfelt sympathy and condolence in this their sad hour of bereavement.

Resolved, That a copy of these resolutions be presented to Bro. MARSHALL and they be inserted in the M. & B. JOURNAL and also in the *Charlestown Chronicle*.

M. S. MANNING, }
J. M. MASON, } Com.
SAMUEL GILLIS, }

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